ASH GROVE CEMENT COMPANY

"WESTERN REGION"

January 5, 1996

Mr. Fred Austin
Puget Sound Air Pollution Control Agency
110 Union Street, Suite 500
Seattle, WA. 98119-3958

Re: BACT Analysis for the Planetary Cooler/Clinker Discharge Shroud .

Dear Mr. Austin:

The information in this letter supplements the April 26, 1995, BACT analysis performed for Ash Grove by McCulley, Frick and Gilman. That analysis which considered a Canadian plant in addition to plants located in the United States concluded that Ash Grove's Seattle Plant was the only one within its source category of similarly configured plants with anything more than operational controls on this source of fugitive dust emissions. The analysis therefore focused on what appeared to be the only "available" control technology: the one already in place at the Seattle Plant.

After the BACT analysis was submitted, Ash Grove contacted plants in Europe with similar configurations and was unable to locate any using control technology for this type of emission. No another cement manufacturer with similar kiln designs either inside or outside the United States have an effective solution beyond what is being done at the Seattle Plant. We must conclude that there is no proven solution.

Responding to PSAPCA's comments, Ash Grove has now looked beyond its source category to controls used on other types of rotary kilns. On November 7, 1995, PSAPCA allowed Ash Grove an extension to complete the above BACT analysis as required by Condition No.9 of Order of approval No.5730 for controlling fugitive dust emissions which occur in this area only during kiln start up and shutdown. This extension was granted to permit further evaluation of potential solutions for the purpose of proposing and implementing with PSAPCA's approval, a feasible control that would satisfy the requirements of condition No. 9 of Order of approval No.5730.

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We have identified one device which we believe may be adaptable to the configuration of the Seattle Plant. This technology, however, has no precedent in this application and therefore its exact performance cannot be predicted. The control should be provided through the installation of spring seals to cover the gap between the discharge housing shroud and the planetary cooler diaphagm. The seals would be installed 360 degrees around the discharge housing shroud to close the gap. One end of the seal leaf is attached to the stationary shroud. The opposite end of the leaf would be held against the riding band attached to the cooler's diaphragm rotating with the kiln. This would effectively seal the gap from which dust is emitted during the latter period of preheat during start up and the initial period of shut down and increase the effectiveness of the hood currently use. The gap being filled is necessary as an inlet for combustion air to the kiln process and we may need to add a mechanism to allow air into the hood for the process to operate normally.

Further details are shown in the attached drawings. Since the construction of this proposal is pending PSAPCA's approval, a quick response is requested.

If you should have any questions, please call.

Gerald J. Brown
Manager, Safety and Environment

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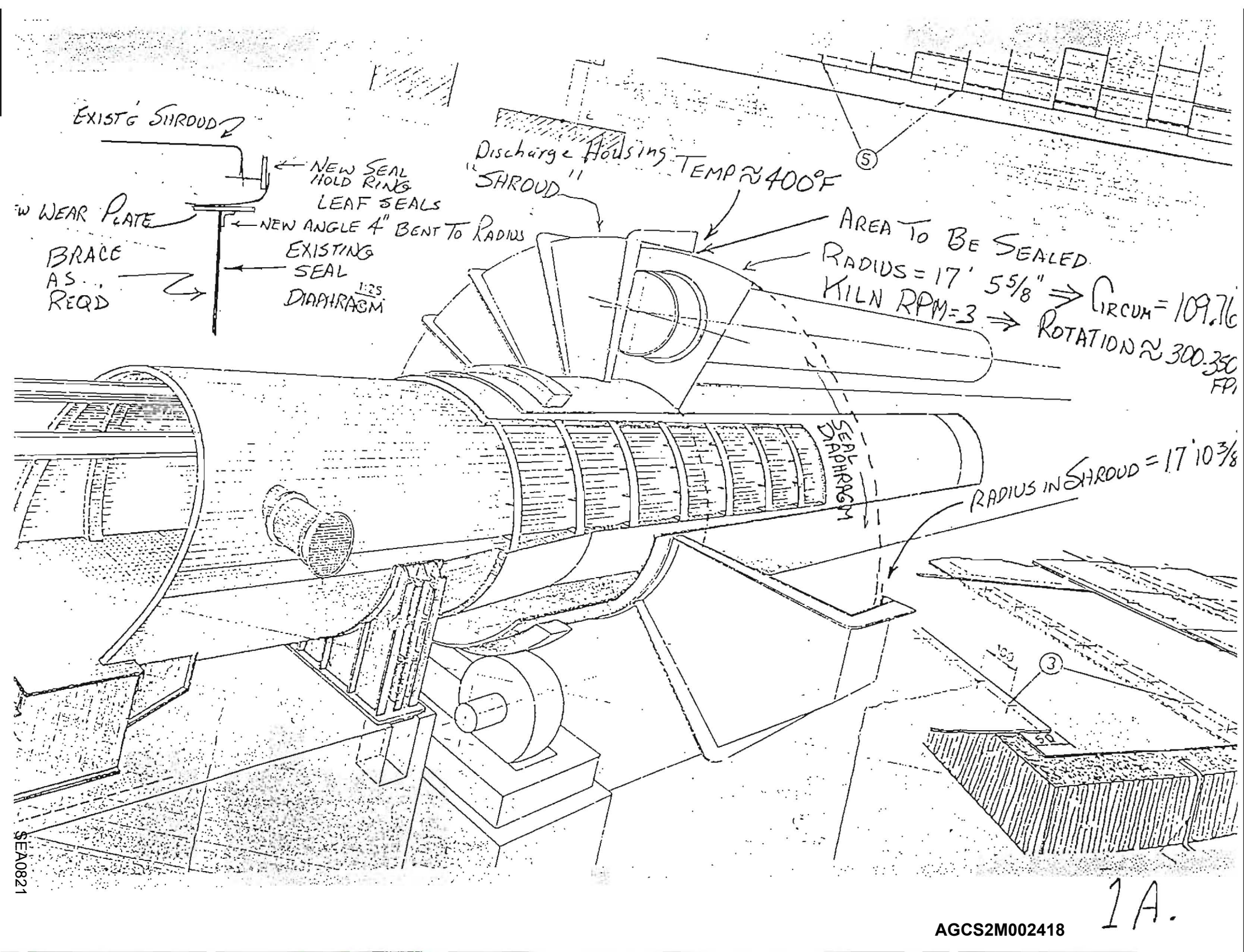
NAF
HES

As Built
AGCS2M002417
SEA0820


EXIST'G SHROUD
NEW SEAL HOLD RING
LEAF SEALS
W WEAR PLATE
NEW ANGLE 4" BENT TO RADIUS
BRACE AS REQ'D
EXISTING SEAL DIAPHRAGM
1:25
Discharge Housing TEMP ≈ 400°F
"SHROUD"
AREA TO BE SEALED
RADIUS = 17' 5 5/8" ⇒ CIRCUM = 109.76
KILN RPM = 3 ⇒ ROTATION ≈ 300-350 FPI
SEAL DIAPHRAGM
RADIUS IN SHROUD = 17' 10 3/8
100
50
SEA0821
1A.
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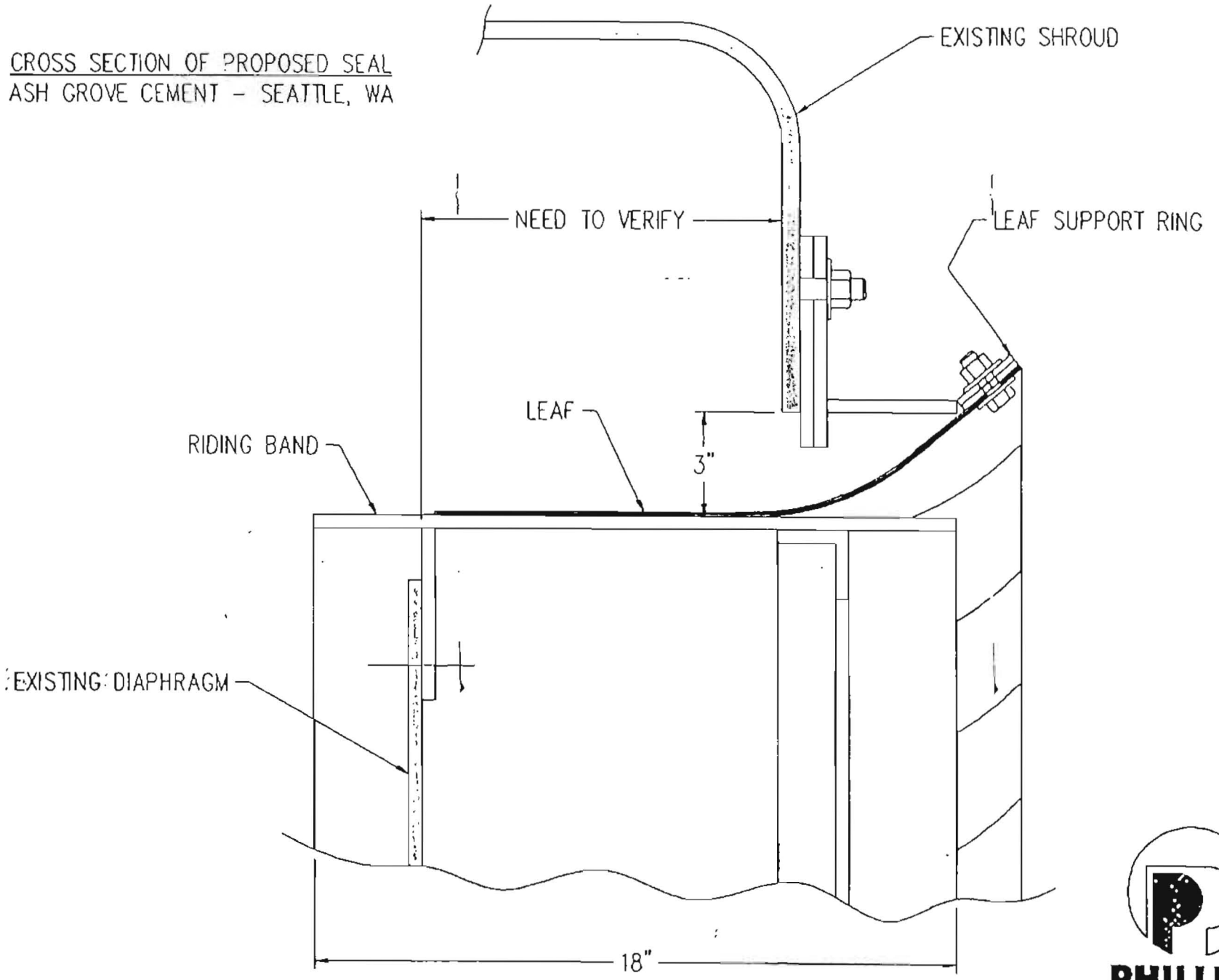
SEA0822

CROSS SECTION OF PROPOSED SEAL
ASH GROVE CEMENT - SEATTLE, WA



PHILLIPS
KILN SERVICES LTD.

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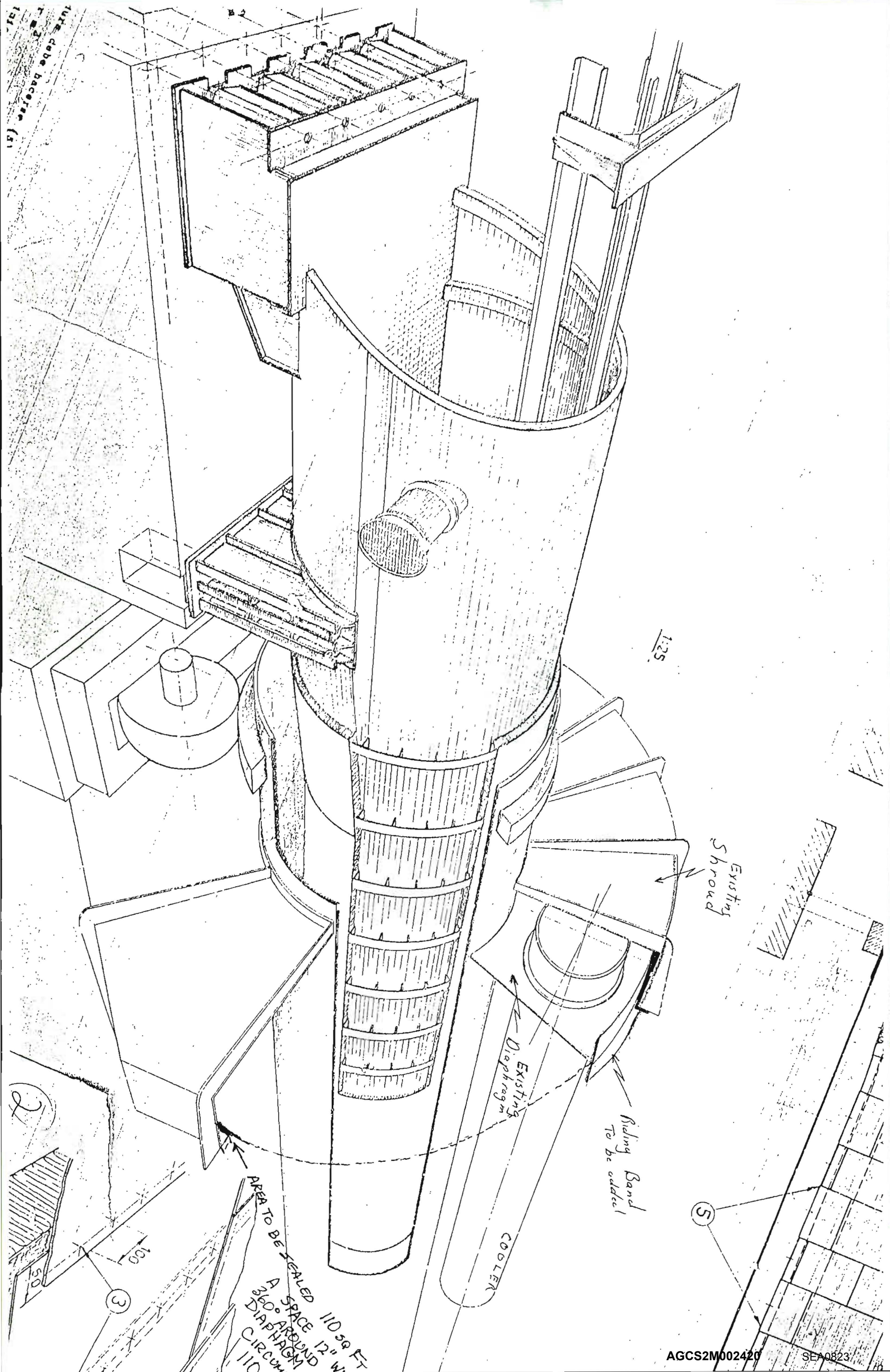
Existing Shroud
Existing Diaphragm
Riding Band To be added
COOLER
AREA TO BE SEALED
A SPACE 12" WIDE 360° AROUND DIAPHAGM
110 SQ FT
CIRCUM
110
50
60
3
2
5
1:25